

Notice of Allowability

Application No.

10/625,879

Examiner

Hai L. Nguyen

Applicant(s)

TAMURA, HIROTAKA

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

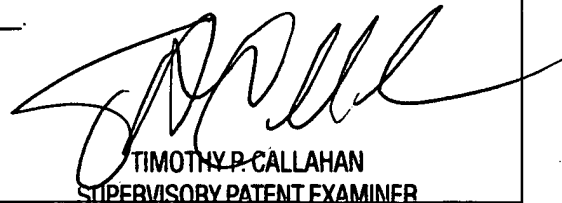
1. ☒ This communication is responsive to the amendments filed on 11/29/2005.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 24 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Response to Amendment

1. The amendment received on 11/29/2004 has been reviewed and considered with the following results:

As to the objection to claim 1, Applicant's amendment has overcome the objection, as such; the objection has been withdrawn.

As to the rejections to claims 3-8, under 35 U.S.C. 112, 2nd paragraph, Applicant's clarification has overcome the rejections, as such; the rejections have been withdrawn.

As to the prior art rejections to the claims, Applicant's amendments have overcome the prior art rejections made in the previous Office Action mailed on 6/29/2004, as such; the prior art rejections have been withdrawn. Therefore the case is found to be in allowance condition for the reasons as set for below.

REASON FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or fairly suggest a clock generator (as shown in Fig. 2), as recited in claim 1, having specific structural limitations such as a phase difference detection circuit comprises a plurality of phase detection units, at least one of the plurality of phase detection units (1) carries out a direct phase detection in which a phase of the clock (CLK2) is directly compared with the phase of the reference waveform (DATA/CLK1), and at least one of the other of the plurality of phase detection units (7) carries out an indirect phase detection using a phase-synchronized waveform generating circuit (6) generating a waveform

Art Unit: 2816

(CLK3) synchronized in phase with the reference waveform or an output of the clock generating circuit and a phase information extracting circuit (7, 8, 9) extracting phase information from the phase-synchronized waveform wherein the control signal (output signal of 4) is generated based on phase difference detection information from at least one of the plurality of phase detection units and at least one of the other of the plurality of phase detection units; and being configured in combination with the rest of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or fairly suggest a clock generator (as shown in Fig. 2), as recited in claim 9, having specific structural limitations such as a phase-synchronized clock generating circuit (6) generating a comparison clock (CLK3) synchronized in phase to the reference signal (DATA/CLK1) and having a higher clock transition rate than the reference signal; a second phase comparator (7) carrying out a phase comparison between the comparison clock and the internal clock (CLK2); an adder (4) summing first phase difference information obtained from the first phase comparator and second phase difference information obtained from the second phase comparator, and an internal clock generating circuit (5) generating the internal clock whose phase is adjusted in accordance with an output of the adder; and being configured in combination with the rest of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or fairly suggest a clock generator (as shown in Fig. 2), as recited in claim 16, having specific structural limitations such as a phase difference detection circuit comprises a plurality of phase detection units, at least one of the plurality of phase detection units (1) carries out a direct phase detection in which a phase of the clock (CLK2) is directly compared with the phase of the reference waveform (DATA/CLK1), and at least one of the other of the plurality of phase detection units (7) carries out an indirect phase

Art Unit: 2816

detection by detecting a phase difference between the clock and a data clock (CLK3) synchronized to the externally supplied data using a phase-synchronized waveform generating circuit (6) generating a waveform synchronized in phase with the reference waveform or an output of the clock generating circuit and a phase information extracting circuit (8, 9) extracting phase information from the phase-synchronized waveform; and being configured in combination with the rest of the limitations of the base claim and any intervening claims.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2816

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HLN

January 13, 2005